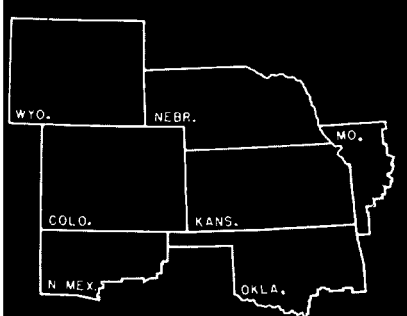

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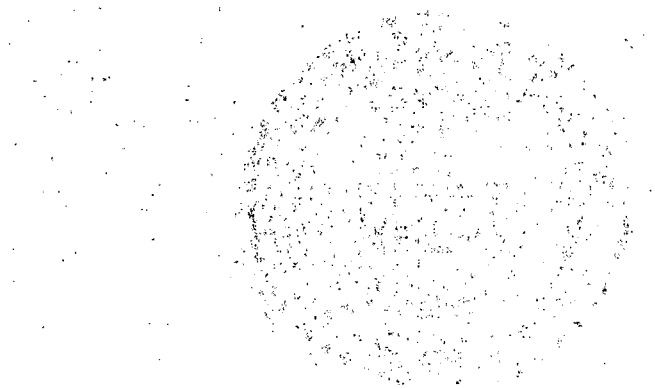

AGRICULTURAL POLICY: EVOLUTION AND GOALS

By Marvin Duncan and C. Edward Harshbarger

Farmers often criticize what they consider to be the "cheap food policies" of the U. S. Government. Urban dwellers just as frequently point to agricultural programs as being subsidies to farmers and suggest instead that they should take their chances in the marketplace like everyone else. However, farmers forget that a goal of any responsible government must be to assure a stable supply of reasonably priced food to its citizens. And urban dwellers forget that agricultural producers must earn a reasonable return for their efforts if they are to continue in business. Fire-sale prices for farm products may result, perversely, in more products being produced in the short run as farmers individually attempt to increase production to offset income reductions resulting from price decreases. But, over any reasonable planning period, farm prices below the cost of production will drive producers from the market and shortages will occur (and food prices may rise) as supplies of the product diminish. Thus, urban dwellers also have a vested interest in maintaining reasonable prices for farm products.

The grain shortages that developed in the wake of massive crop failures in many parts of the world between **1972** and **1975** have underscored the importance of agriculture in this country and abroad. Policymakers now recognize more readily that agriculture is closely linked with every sector of the economy—it does not stand alone in a vacuum. Hence, agricultural policies must frequently address broader problems than those that directly affect farmers. An examination of the evolution of agricultural policy shows, however, that this has not always been the case.

The emphasis and direction of farm policy have changed a number of times over the years because of the various goals and economic settings that have held sway in the policymaking process. History shows that the goals of farm policy—no matter how laudable they might be collectively—are **difficult** to implement individually because of certain conflicts among them. Thus, compromises must be reached. This article focuses on how farm policy has evolved over the years and how various goals and special circumstances have influenced the changes that have occurred.

THE EVOLUTION OF AGRICULTURAL POLICY

Early Policy

Early in the history of the United States, fundamental Government policy decisions were made that encouraged the nation's farmers to own and work their own land. As early as 1785, operating under the Articles of Confederation, Congress passed the Ordinance of **1785,** establishing the rectangular survey and a process for sale of public land at public auctions. Two years later, the act was amended to permit credit on land sales. For the next 10 years various proposals emerged to limit the

sale of public land to small tracts rather than in huge tracts to investors and speculators.

Alexander Hamilton, anxious to sell the new country's public lands to the best financial advantage, favored limiting land sales to increase the price and selling large blocks of land to speculators. Thomas Jefferson, however, urged easier access to the land, small farm units, and a nation of farmers working their own lands.' The philosophy of Jefferson, more in tune with the desires of new settlers and frontier dwellers than was Hamilton's philosophy, eventually prevailed. Thus, the direction of farm policy was to support the family farming unit and public distribution of land to farmers.

Such policy had the immediate effect of providing farmers with the means to increase their productivity and income.' Because the country was growing, and more people were residing in cities, increased food production was welcomed. Since many people were poor, lower real food prices made it possible for them to improve their diets and increase their food consumption. Land acquired at little or no cost from the Government increased in price with population growth and national economic growth. Thus, capital gains accrued to farm owners when they sold their land and moved further west to new land. These capital gains provided, in part, the means to achieve further agricultural development. Thus, the policy of easy access to land by farmer-operators proved very beneficial to farmers, consumers, and to the country.

A New Means of Public Support for Agriculture

Beginning about 1860, with the creation of the United States Department of Agriculture (USDA) and the land-grant colleges, the nation entered a new era of public support for agriculture. Heretofore, Government policy had been concerned principally with land distribution and settlement. Henceforth, the U.S. Government would increasingly support agricultural research and development of new and more productive technology. These research and development efforts were to take place principally at the USDA and at land-grant colleges. Research did not pay off in greatly increased productivity, however, until about 1900. But since then, technological advances in agricultural production have been spurred by public research—with impressive results.' However, steadily increasing productivity was both a blessing and a curse. While such a policy did provide consumers with ample food at decreasing prices relative to their incomes, farmers increasingly faced falling prices as production exceeded domestic consumption.

The years of the World War I period were favorable for farm producers as demand growth matched agricultural supply growth. But by 1920, foreign demand was depressed, the rate of population growth was slowing, and food purchases by consumers no longer increased as fast as incomes. Thus, farmers quickly found, themselves with excess production capacity and, low farm prices—a condition that would prevail' for the next two decades.

Coping With Excess Supplies

The agricultural industry came to the end of an era with the changed supply-demand conditions of the early 1920's. With the exception of short periods when war or weather disaster generated high levels of foreign demand, American agriculture has had excess production capacity for more than 75 years. For the most part, farmers have had difficulty coming to grips with this reality. As a

1 Murray R. Benedict, *Farm Policies of the United States. 1790-1950,* The Twentieth Century Fund, New York, 1953, pp. 12-18.

2 Earl O. Heady, *Agricultural Policy Under Economic Development.* Iowa State University Press, Ames, Iowa, 1962. pp. 3-34.

3 Leroy Quance and Luther G. Tweeten, "Policies 1930-1970," in *Size. Structure, and Future of Farms.* ed. A. Gordon Ball and Earl O. Heady, Iowa State University Press, Ames, Iowa, 1972, pp. 19-39.

consequence, increasing attention in agricultural policy formulation has been focused on various compensation policies to assure farmers an adequate return for their labor and investment.

The 1920's and 1930's were characterized by ample farm production and weak product prices. Reduced foreign demand, coupled with sharply reduced domestic demand during the 1930's as a result of the Depression, exacerbated the farm situation. Farm prices fell during the 1920's, fell further during the 1930's to very low levels, and didn't strengthen markedly until after World War II had begun.

The depressed state of U.S. agriculture during the 1920's led many policymakers to conclude that market forces were causing inequities of such severity that they could not be tolerated by a responsible government. Consequently, those policymakers set about developing Government actions to raise farm prices to acceptable levels. The controversial McNary-Haugen legislation-considered by five sessions of Congress and twice vetoed by the President—would have formed a Government corporation to buy farm commodities for sale in the export market. Such Government purchases were expected to restrict the supply of farm products on the domestic market—thus raising farm prices. Products purchased were to be "dumped" on the export market at whatever price they would bring. Though the McNary-Haugen legislation was never enacted, many of its features were incorporated into the Agricultural Marketing Act of 1929. This legislation was designed to promote the "effective merchandising of agricultural commodities in interstate and foreign commerce"' through Government support of farm cooperatives, and development of more efficient means of distribution and marketing to aid in the control and prevention of surpluses. However, the Act was neither adequately funded nor designed to cope with the magnitude of depression-related stress on farm product prices and consequently had little real impact on agriculture.

Efforts to pass the McNary-Haugen legislation helped forge the philosophical basis for much of the legislation enacted during the 1930's to deal with surplus production and the drastically reduced consumer purchasing power. The Agricultural Adjustment Act of 1933, which became the mold for future farm programs, provided for supply control, income transfer payments to farmers, and nonrecourse loans[5] on farm commodities. A later piece of legislation, the Agricultural Adjustment Act of 1938, is still the country's basic price support and production control legislation. It is instructive to remember that during the 1920's and 1930's, farm programs were viewed as solutions for short-run temporary problems—excess production and, later, reduced consumer demand as a result of the Depression.

Recent Policy Evolution

When foreign and domestic demand for farm products increased during World War II, farm prices increased rapidly. All-out production was encouraged as an aid to the war effort. But well before hostilities ended, planning was begun to avoid a repeat of the farm depression that followed World War I. Stop-gap legislation provided for support of farm prices at the high wartime levels for 2 years after hostilities ceased—ultimately through 1948. Major congressional and academic studies recognized the importance of:

(1) A full-employment economy to create strong demand for farm output and to provide jobs for agricultural underemployed who wished to leave farming,

4 Benedict, pp. 239-41.

5 Nonrecourse loans can be settled in full by paying off the loan or by turning the collateral securing the loan over to the lender as full settlement of the loan obligation.

(2) buoyant international commerce to stimulate foreign markets for U.S. farm products, and

(3) production adjustments within the farm sector and labor shifts out of farming consistent with changing demand and new technology.[6]

Observers recognized excess capacity in agriculture as a major problem but they did not foresee the very rapid rate of technological advance that would occur in agriculture during the next three decades.

High price supports for many major commodities continued after 1948 as provided for in the Agricultural Act of 1948. High supports continued despite agreement early that year among most major farm organizations, the Democratic Administration, and many Republican Congressmen on the desirability of price supports that were flexible downward to balance supply and demand, and on the standby need for production controls if surpluses became burdensome. Secretary of Agriculture Brannan proposed an innovative package of farm legislation in 1949 designed to insure both high farm income and low consumer food costs. According to Cochrane and Ryan, the new ideas contained in the Brannan Plan were:

(1) An income standard to replace the old 1910-14 parity price standard.

(2) Production, or income, payments to support gross returns to producers of perishable commodities (price support programs continued—for storable commodities). Farm income would be raised above marketplace prices—to "fair" levels—by government income payments (subsidies) to producers. Thus, food prices to consumers would be determined in the marketplace.

(3) A new list of farm commodities (including important animal products) to replace the old so-called basic commodity list.

(4) No price or income support on production above a certain limit—as determined by the size of a typical family farm.[7]

Despite the probable merit of the proposal, it was ultimately defeated, primarily because of its cost (considered very high at $3 to $8 billion per year) and its departure from past farm legislation. However, the Brannan Plan triggered sharp debate over the freedom of individual farmers to make production decisions without Government interference; and the freedom issue contributed to the Plan's defeat. The Agricultural Act of 1949, subsequently enacted, provided for price supports of basic commodities at 90 per cent of parity in 1950 with a provision to reduce most price supports to 75 per cent of parity by 1952.

Increased foreign demand during the Korean war, especially for wheat, again raised most farm prices to very profitable levels as farm products were exempt from wartime price control ceilings. But with the transition to the Eisenhower Administration and the end of the Korean war, the stage was again set for a major farm policy debate. Secretary of Agriculture Benson undertook to shift Government farm policy from dependence on "Government bounty" to a "free market" economy.

During the Benson years (1953-61), important legislation was passed and some innovative ideas took root. Flexible price

6 Willard W. Cochrane and Mary E. Ryan, *American Farm Policy, 1948-1973*, University of Minnesota Press, Minneapolis, 1976, p. 24.

7 Zbid., pp. 87-89.

supports were included in the Agricultural Act of 1954 as Congress and the Administration were at odds over how to combat growing surpluses. A Food for Peace program (P.L. 480)—to reduce surpluses through food-aid programs—was enacted that would ultimately evolve from a surplus-dumping effort to a major food-aid and market-development program. A Soil Bank program to take farmland out of production—somewhat reminiscent of soil conservation programs of the 1930's—was enacted. Attention was directed to the problems of the rural poor and an unsuccessful attempt was made to legislate Government payment limitations according to farm size.

As a result of low farm prices and large surpluses, Secretary Benson's policies were frequently and severely criticized by congressmen of both parties as well as by many farm people. Nonetheless, an evolution in farm policy was underway—away from the concept of protecting farm income primarily by creating artificial scarcities of farm products through restrictions on production—toward a more balanced approach. Efforts at limiting output through acreage set-asides and Soil Bank programs were combined with efforts to subsidize food exports (P.L. 480). The concept of protecting farm income through transfer payments while protecting family farms through payment limitations gained credence in public policy debate.

By the early 1960's, many observers were convinced that the rate of increase in agricultural productivity exceeded growth in demand by such a margin that a free market equilibrium for farm prices would result in a painful and protracted farm depression. At the same time, urban taxpayers were increasingly unhappy about the public cost of farm programs. Thus, the Kennedy Administration offered cooperating farmers equitable incomes through balanced programs incorporating supply management—hoping production could be reduced enough to bolster farm prices and thus concurrently reduce Government farm subsidy costs. The Food and Agriculture Act of 1962 provided for acreage set-asides, support prices at near world price levels, and income subsidy payments to feed grain producers. Wheat producers received similar treatment in 1964 agricultural legislation. The Food and Agriculture Act of 1965 was the culmination of policy development during the Kennedy-Johnson years. The 4-year farm bill—a significant departure from past 1-year bills—removed almost all mandatory production controls, relying instead on voluntary acreage reduction, low price support levels, and direct producer payments to accomplish the desired goals of supply management and farm income protection.

A number of other farm and food policy changes also occurred during the early 1960's. One major change was relaxation of trade barriers with Communist countries—a policy direction of great potential importance to farmers and consumers. Though sharply criticized by many at that time, trade with centrally planned economies was to receive strong and widespread support by the mid-1970's. Meanwhile, agricultural policy was increasingly addressed to food and rural poverty issues.

Farm legislation of the early 1970's was generally similar to the Food and Agriculture Act of 1965, continuing the concepts of voluntary supply management, price supports near world price levels, P.L. 480 programs to encourage export market development, income transfer payments to farmers to support farm income, and increased attention to general food issues. However, two innovations were included. The Agricultural Acts of 1970 and 1973 loosened production controls on individual farms and crops, and established payment limitations on individual wheat, cotton, feed grain, and rice producers. Thus, while attempts were made to return more decisions to farmers, the programs were primarily intended to benefit the family

farmers. Unfortunately, these farm acts made no provision for food reserve programs to protect consumers in times of crop shortfalls and producers in times of excess production.

The very strong export demand for U.S. farm products in 1972-75 and the resultant high grain prices brought renewed cries from many farm producers and congressmen to get the Government entirely out of farming. Indeed, since Government-held stocks were depleted and price support programs were little used, many people erroneously assumed that the Government already had departed. Short-term export embargoes by the Government accentuated the assertions that farm prices should be made in the marketplace, and there alone. However, ample world grain crops in 1976 and 1977 resulted in sharp reductions in grain prices—and in strong demands for Government-imposed acreage restrictions, much higher price supports, and larger target price deficiency payments. These requests came from many farmers and congressmen who a short time earlier had called for an end to such programs.

GOALS AND PROBLEMS OF AGRICULTURAL POLICY

Agricultural policy has in some sense been constant over the past 200 years in its support for a family farm structure of agriculture. However, the perceived means of accomplishing this has changed markedly, especially in the past 30 years. Early policies largely reflected the high priority accorded to those goals dealing with land settlement and improved production efficiency, but more recently the focus has centered on the enhancement of farm prices and incomes. The instruments used to implement agricultural policy have ranged from land grants to land retirement schemes, from tight production controls to no controls at all, from foreign market development programs to export embargoes, and from parity prices to target prices with escalator clauses, just to name a few. The lengthy list reflects not only the permanence of many of the problems in agriculture but also the frustrations of policymakers in finding workable solutions.

Although economic developments are often influenced by various policies, the fact is that circumstances in the economy tend to dictate prosperity or recession in the farm sector far more than any specific policy. The prosperity that most farmers enjoyed during the 1972-74 period has frequently been attributed to the "market-oriented" policy of the Nixon Administration. Yet, since that time, economic conditions in the livestock industry and several grain markets—wheat in particular—have deteriorated sharply even though policy has remained virtually unchanged.

The new farm program that begins in 1978 is a good example of how policies are shaped by current economic conditions as well as by the goals of society. The concerns about falling farm prices, mounting surpluses, shrinking foreign demand, and unstable world food supplies are specifically addressed in the new legislation in several ways. Yet, in the final analysis, the new program is very similar to the plan that has been followed for the past 4 years. Certainly, the mechanics for supporting farm income will remain essentially the same in the period ahead. And the underlying goals of the new program probably are not much different from the overall objectives of the expiring legislation.

Policy Goals

The production and distribution of food is essential to the welfare of any society. Thus, the public has a vested interest in promoting and fostering the development of a strong agriculture. Though it is hoped that farmers will receive most, if not all, of their income from the marketplace, policymakers occasionally have deemed it necessary to assist agriculture directly to shore up sagging incomes. However, agriculture is much more than an occasional recipient of benefits from the U.S. Treasury: it is also a provider, not

only of food, but of numerous job opportunities in the agribusiness complex. Put in this perspective, the rationale for special programs for agriculture—an important component of total economic activity—is more easily understood.

Four key areas can be identified in which some form of government action may occur. These areas are: (a) farm prices, incomes, and production; (b) domestic food supplies and consumer prices; (c) the development of foreign markets; and (d) the maintenance of national economic policies. Within each of these key areas, there may be specific goals sought by all or part of the citizenry in the formulation of agricultural policy. In short, policy should:

(1) Promote production efficiency by allowing free market forces to guide and direct resource use.

(2) Achieve a level of price stability for farm commodities that is consistent with desired income levels in the farm sector.

(3) Allow farmers to realize reasonable rates of return to the factors of production, including their labor.

(4) Encourage maximum food production consistent with the needs of consumers.

(5) Provide for adequate food stocks to meet not only domestic needs but also demands from abroad.

(6) Promote an expansion of international trade through the removal of trade barriers as well as the implementation of market development programs.

(7) Achieve a continuing integration of the agricultural sector into the national market economy.

(8) Encourage farmers to look to the marketplace for their welfare rather than to the Government, thus holding Federal outlays to a minimum.

(9) Conform with overall national policies concerning price stability, full employment, and economic growth.[8]

Policy Problems

Over the years, there has usually been a broad consensus about the goals of farm policy, but a wide variety of opinions about how best to achieve them. Complicating the issue is the realization that not all of the goals are completely compatible. Some are in direct conflict with others. For example, a policy that maintains high support prices for farm products may not be consistent with low food prices and minimum Government outlays to farmers. These inherent conflicts have hampered the development of agricultural policy.

Policy formulation has also been hampered by false assumptions that the problems in agriculture are transitory.[9] Hence, farm programs have typically been viewed as temporary measures for supporting prices and incomes in agriculture. Very seldom have programs been envisioned as permanent responses to the recurring needs of farmers and consumers. The events of the last few years have provided clear evidence that policies must possess a long-run perspective if they are to attain the goals noted earlier.

Even a long-run approach may prove to be a difficult task for policymakers due to the potential conflicts between various goals. If the

8 See "A New U.S. Farm Policy for Changing World Food Needs," Committee for Economic Development, New York. October 1974, p. 22, for additional comments on policy goals.

9 Marvin Duncan and C. Edward Harshbarger, "A Primer on Agricultural Policy," *Monthly* Review, Federal Reserve Bank of Kansas City, September-October 1977. p. 3.

achievement of one goal depends on the exclusion of all others, very few people will be satisfied with the programs that are proposed. On the other hand, people with strong vested interests in certain goals are bound to be disappointed if they perceive that their objectives are being compromised so that a program acceptable to a broader element of society can be adopted. Therefore, policy-making in the future--even if a long-run perspective is used—will continue to be a give-and-take process.

Within this framework, a few special considerations for agricultural policy need to be acknowledged. Earlier farm programs were largely responsible for spurring the substitution of capital for labor through the cash subsidies used to support prices. By substantially reducing price and income instability, these programs facilitated the adoption of new technology and encouraged farmers to expand their operations. However, because most of the benefits accrued to the larger farms, the income disparity between large and small farms has actually widened over the years. If the goal of farm policy is to foster the perpetuation of family farms, the manner in which Government benefits are granted to farmers will require close scrutiny.

An important policy goal in the future will be greater stability in agricultural markets. However, a policy which increases dependence on export markets may be contrary to the achievement of this objective because foreign shipments will be influenced largely by worldwide weather conditions and the policies of foreign governments unless large grain reserves are established. In addition, instability has had an adverse effect on those farmers who have had to borrow substantial sums of money to finance their growing capital requirements. Since 1970, total assets in agriculture have risen from approximately $300 billion to more than $600 billion, which represents an average investment of about $200,000 per farm. From a policy standpoint, therefore, it should be recognized that high capital requirements effectively limit the ability of farmers to absorb the losses resulting from either natural or market forces. Providing greater stability in agricultural markets may well be the key to preserving the family farm in the future. But achieving market stability at prices acceptable to farmers and consumers alike will be a formidable challenge for policymakers.

CONCLUSION

The time lags between when the need for innovations in Government farm policy first become apparent and when such innovations are passed into law should not surprise persons familiar with social change. Changes come slowly and deliberately. The ideas in the McNary-Haugen proposals of the 1920's became the farm policy of the 1930's, 1940's, and 1950's. The policy innovations of the 1949 Brannan Plan are still being incorporated in farm iegislation. American farm policy has clearly moved toward a position where product prices are determined in the marketplace and where transfer payments, if needed, are used to protect producer incomes. In addition, concern over poverty, consumer food costs, and export earnings has recently resulted in agricultural policy issues being debated and resolved as a part of an overall national food policy. It remains to be seen how effective these policies will be if burdensome farm surpluses once again accumulate or if sharp shortfalls in world food production occur.

GUIDELINES FOR EFFICIENT RESERVE MANAGEMENT

By Robert E. Knight

Efficient reserve management is important to every member of the Federal Reserve System. Under present regulations, member banks are required to maintain reserves against deposits and other selected liabilities. These reserves must be held either as vault cash or in a deposit account at a Federal Reserve Bank. Since such assets earn no explicit interest, bank profits can potentially be increased by niinimizing holdings of excess reserves. However, if a bank experiences a reserve deficiency, a penalty may be charged.[1] In view of the desirability to banks of avoiding either unused excess reserves or penalties on deficiencies, this article presents guidelines for efficient reserve management. Before turning to this general objective, though, the System's regulations concerning reserve requirements are summarized.

Table 1
MEMBER BANK RESERVE REQUIREMENTS
September 95, 1977

Type of Deposit	Percentage Reserve Requirement
Net Demand Deposits	
First $2 million	7.0
Next $8 million	9.5
Next $90 million	11.75
Next $300 million	12.75
Amount over $400 million	16.25
Savings Deposits	3.0
Time Deposits Maturing in	
30 to 179 days	
First $5 million	3.0
Over $5 million	6.0
180 days to 4 years	2.5"
4 years or more	1.0"

"The average reserve requirement on all time and savings deposits must be at least 3 per cent, the minimum specified in the Federal Reserve Act.

1 The penalty is based on the amount of the reserve deficiency. Regulation D states that the "penalty will be assessed at a rate of 2 per cent per annum above the lowest rate applicable to borrowings by each member bank from its Federal Reserve Bank on the first day of the calendar month in which the deficiencies occurred."

Although the penalty provides banks with an economic incentive for meeting reserve requirements, the potential threat of regulatory action is usually of greater significance. If a state member bank persists with a reserve deficiency, the Federal Reserve is authorized to suspend its membership privileges. In the case of a national bank, the Federal Reserve may direct the Comptroller of the Currency to initiate legal action to remove a bank's charter. In either case, a less drastic option would be for the Federal Reserve to exercise close surveillance over the bank's activities in order to ensure that reserve requirements were satisfied.

The potential costs of reserve deficiencies, therefore, can considerably exceed those associated with the penalty rate of interest. As a result, the concerns of banks in managing reserves must extend beyond the immediate trade-off between the likely penalty on a deficiency and the rate of interest which could be earned on loanable funds. In economic terms, banks should seek to maximize profits subject to the constraint that adequate provision is made for required reserves.

REGULATORY PROVISIONS

System reserve requirements against deposits are based on net demand deposits and on gross time and savings deposits. Net demand deposits are defined as gross demand deposits minus the sum of cash items in process of collection and demand balances due from domestic commercial banks. As can be seen in 'fable 1, the reserve schedule for demand balances is graduated, rising with the amount of demand deposits held. The requirements for time deposits are a function of both the amount and initial maturity of such deposits, with shorter maturities being subject to higher requirements. By comparison, the reserve requirement for savings deposits does not vary with deposit size. In addition to these requirements, reserves must also be held against a variety of nondeposit sources of funds.[2] The specific balance sheet items subject to reserve requirements and the levels of those requirements are set by the Board of Governors and are changed when economic and financial conditions warrant. Details concerning the requirements at any time may be found in Regulations D and M of the Federal Reserve System.

Present procedures for meeting reserve requirements are designed to give banks some degree of flexibility and to minimize the uncertainty about the amount of reserves which must be held. One factor contributing to this flexibility is the ability of banks to average reserves. In calculating-required reserves, banks average the daily totals of deposits and other items subject to requirements over a one-week period.' Similarly, reserves are averaged over a 1-week period. The ability to average reserves means that banks do not have to meet minimum targets for reserves on each individual day. A reserve shortfall early in the settlement week can be offset with an excess later in the week, while a reserve excess early in the period can be balanced by a subsequent deficiency. However, if a sizable surplus develops toward the end of a settlement week, a bank is not allowed to "overdraw" its account at the Federal Reserve in an effort to reduce its average balance to the required level.'

2 Nondeposit transactions subject to reserve requirements include, under certain conditions, funds obtained by a bank through the issuance of obligations by affiliates, funds obtained through a bank's sale of ineligible acceptances or "finance bills," net balances due from domestic banks to foreign branches, assets acquired by foreign branches from domestic offices, loans made by foreign branches to U.S. residents, and borrowings from foreign banks by domestic banks.

3 An exception exists in the case of balance sheet items involving foreign banks and branches. In these cases, the base period for calculating required reserves is the 4 weeks ending 2 weeks before the beginning of the 4-week reserve maintenance period. Although the reserve maintenance period is 4 weeks, banks are expected to meet requirements during each of the 4 weeks. Since the main difference in the case of foreign transactions is one of timing, the general guidelines for optimal reserve management, described later, are not altered.

4 In practice, standard reporting forms in use at most Reserve Banks do not require member banks to average either the items subject to reserve requirements or the reserves maintained. On those forms, for example, daily figures for net demand deposits are summed to obtain the total of net demand deposits on seven consecutive days. Reserve requirements for net demand deposits are adjusted to make allowance for the fact that these totals are seven times the average net demand deposit size of the bank. Similarly, reserves held are computed as the sum of reserves maintained on each of seven days. This procedure permits a bank experiencing a reserve excess or deficiency to adjust its reserves by the calculated dollar amount of the excess or deficiency. Specifically, a bank does not need to compute the change in reserves necessary to lower or raise the average by a stipulated amount. The result, in effect, allows banks to average deposits and reserves over 1-week periods.

Throughout this article, "reserve assessment" period refers to the week during which deposits and other reservable liabilities determine the magnitude of reserves a bank must hold. The "reserve maintenance" or "settlement" period is 2 weeks later and refers to the week during which the reserves are required to be maintained.

EXAMPLE

Suppose a bank's cumulative required reserves for 1 week are $7 million. This requirement could be satisfied by holding $1 million in reserves on each of 7 days or by holding any combination which would total $7 million over the week. For instance, the bank could hold $7 million for 1 day and nothing on the other 6 days of the week. Alternatively, if the bank held $1.5 million on each of the first 4 days of a settlement week, the bank's cumulative reserve position at the end of 4 days would be $6 million. The bank would then be $1 million short of its $7 million target, and would be required to hold $1 million cumulatively over the remaining 3 days. One possibility would be to keep $333,333 in reserves on each of the 3 days.

However, suppose the bank were to hold $1.5 million in reserves on each of the first 6 days of the settlement week. At the end of the sixth day its cumulative reserve position would be $9 million. With only $7 million required for the week, the bank might wish to invest the $2 million excess in the Federal funds market for 1 day. Such action, however, would not be permissible. Since the bank's actual balance at the Reserve Bank is $1.5 million, this amount is the maximum the bank could sell without overdrawing its reserve account.

To reduce bank uncertainty about the amount of reserves that must be held, the Federal Reserve introduced lagged reserve requirements in 1968. Previously, the reserve and deposit periods had been coincident, with the result that banks were unable to determine their required reserves before the end of the settlement period and often held large amounts of excess reserves to protect against unanticipated losses of funds. Since 1968, required reserves for any settlement week have been based on deposits (and other liabilities subject to reserve requirements) held 2 weeks earlier. Consequently, required reserves can be known with certainty at the beginning of any settlement period. Reserves which must be kept at the Federal Reserve are determined by deducting a bank's holdings of vault cash during the reserve assessment period from total required reserves.[5]

EXAMPLE

Suppose that at the end of a reserve assessment week a bank determines that its required reserves to be maintained 2 weeks later are $5 million. This figure would be derived by multiplying the relevant reserve requirement percentages by the amounts of deposits and other reservable liabilities held during the week. Suppose also that during the week the bank had $1.2 million in vault cash. Then, the balance the bank would be expected to maintain at the Federal Reserve during the settlement week beginning 1 week hence would be $3.8 million. Note, however; that this total may subsequently be adjusted when allowance is made for the reserve carry-over.

A carry-over procedure provides banks with additional latitude in managing reserves and also allows them to make full use of all reserves maintained. Under this provision, a bank is permitted to carry a reserve excess or deficiency forward into the next reserve period. Reserves can be carried over only 1 week, however, and the maximum amount of the carry-over is limited to 2 per cent of *total cumulative reserves required* for the current settlement week. Total cumulative reserves required represent the aggregate reserves a bank must

[5] In determining the deduction, banks are to include with vault cash all currency and coin in transit to or from a Reserve Bank during the reserve assessment week.

hold against deposits and other reservable liabilities; they are the required reserves before any adjustments are made for the carry-over from the previous week or for vault cash maintained 2 weeks earlier. In practice, a bank which has a reserve excess one week is automatically permitted to incur a reserve deficiency in the following period up to the amount of its actual carry-over. Similarly, if a bank carries a reserve deficiency forward into the following period, it must hold excess reserves at least equal to the amount of the deficiency to avoid being subject to a penalty.[6] If the bank held more reserves in the second period than were necessary to offset the deficiency, the additional excess would be eligible for carry-over to the succeeding period, subject to the 2 per cent limitation.

To obtain maximum benefit from the carry-over allowance a bank should seek to alternate weeks of reserve excesses and deficiencies, while holding those excesses and deficiencies to amounts allowable for carry-over. As indicated in the example (right), a bank with an excess carry-over should seek to establish a deficiency in the following week. Two consecutive weeks of excess reserves would mean that a bank had not utilized the carry-over available from the first week and had foregone potential interest earnings on that excess. Similarly, 2 consecutive weeks of reserve deficiencies would subject a bank to a penalty on the deficiency incurred during the first week and on any portion of the deficiency of the second week not offset in the following period.

The principles of **efficient** reserve management require banks to establish a target range for reserves held at the Federal Reserve. The derivation and meaning of this range will be analyzed in a subsequent section of this article. However, one boundary of this range will always be the amount of reserves a bank should

EXAMPLE

Suppose a bank's required reserves for the current settlement week are $6.5 million. The maximum carry-over the bank would be allowed would be 2 per cent of $6.5 million or $130,000. Assume further the bank has a zero carry-over from the previous week and that it experiences an actual excess of **$110,000** in the current week. The bank would then have a carry-over excess of $110,000 to the following settlement period.

During the next settlement week, three possibilities would exist. First, the bank could have a reserve deficiency precisely equal to $110,000. Under this possibility, full use would have been made of the carry-over from the previous period and the carry-forward to the next period would be zero.

Second, the bank could realize a reserve deficiency of less than $110,000 or even have excess reserves. In this event, the bank would not have fully utilized its carry-over allowance. If the bank had a reserve deficiency of less than **$110,000,** no carry-over would be allowed to the following week since reserves cannot be carried forward more than 1 week. If the bank had excess reserves, the carry-over would be limited to the size of the excess, provided it did not exceed the 2 per cent maximum allowable carry-over.

Third, if the bank experienced a reserve deficiency in excess of **$110,000,** the bank could, within the 2 per cent limit, establish a deficit carry-over to the next period. Full use would have been made of the $110,000 carry-over excess and the bank should offset the additional deficiency in the following week. Thus, a bank entering a settlement week with an excess carry-over would obtain full use of all reserves by establishing a deficit carry-forward to the following week.

[6] **If a bank has a reserve deficiency in excess of the 2 per cent limitation, a penalty may be assessed on the deficiency over the 2 per cent limit, regardless of the amount of reserves held in the following period.**

maintain at the Reserve Bank if the bank wishes to establish a zero reserve carry-over to the next period. As the foregoing analysis shows, this amount is equal to the reserve requirements based on deposits and other reservable liabilities outstanding 2 weeks earlier, minus vault cash held 2 weeks earlier, and minus (plus) the allowable carry-over excess (deficiency) from the previous week. On Federal Reserve forms used in the Tenth District this concept is called ***Cumulative Reserve Balances to be Maintained with Federal Reserve.***

TIMETABLE FOR RESERVE MANAGEMENT

Nearly 5 weeks may elapse between the beginning of a reserve assessment period and the time the books are closed on a reserve maintenance week. In this section the timetable for computing and meeting reserve requirements is reviewed chronologically.

Week I

For reserve purposes, the accounting week begins each Thursday and ends the following Wednesday. In reporting liabilities subject to reserve requirements to the Federal Reserve, banks use the closing figures for the day. On any day that a bank is not open for business, the closing balances for the previous business day are reported. Banks closed on Saturday and Sunday, for example, use Friday's closing figures for all 3 days. After the close of business on Wednesday, a bank could calculate its "total reserves required" for the settlement period beginning 1 week hence. However, the bank's required balance at the Federal Reserve cannot be determined until the next settlement week has ended and the carry-over allowance applicable to the third week is known.

Week II

At the end of the second week a bank able to track its reserve account precisely will know its carry-over allowance for the following settlement week. Projections of reserve balances, though, may be subject to error. While relatively few charges are made to a bank's reserve account without its prior knowledge, such entries do occasionally occur. The Treasury, for example, has at times drawn on tax and loan accounts before Reserve Banks have had an opportunity to notify member banks. To assist banks under these circumstances, the Federal Reserve provides all member banks with a daily statement showing reserve balances and any credits or debits to the reserve account. With this information a bank can follow and verify changes in its reserve balances.

Week III

The third week is the reserve maintenance or settlement week, the period for meeting the reserve requirements. On or before Monday of the third week, a bank will receive a statement from the Reserve Bank showing total cumulative reserves required for the current settlement week, the amount of reserves a bank would need to maintain at the Federal Reserve to have a zero carry-over to the following week. In addition, the maximum and minimum amounts of reserves that could be maintained at the Federal Reserve without exceeding the carry-over allowance to the following week are indicated. A sample of the statement used in the Tenth Federal Reserve District is shown in Table 2. With the figures for the carry-over from the second week now finalized, a bank can establish a definite target for reserves during the settlement period. The bank would have until the close of business on Wednesday to make any necessary adjustments in its reserve balance.[7]

Weeks IV and V

On the Friday following the conclusion of the reserve maintenance week, the Federal Reserve

[7] As in the case of computing reserve requirements, funds at the Federal Reserve count toward meeting reserve requirements only if they are on deposit at the close of business. On holidays and other nonbusiness days, the previous day's balance is repeated.

Table 2

FEDERAL RESERVE BANK OF KANSAS CITY
ADVICE OF RESERVES TO BE CARRIED
FOR PERIOD ENDING 04/20/77
(Amounts in Thousands)

AC75

Bank Number

Bank Name
City
State Zip

Deposit Classification	Total Deposits For Period Ended 04/06/77	Percent Applied	Cumulative Reserves Required
Net Demand Deposits			
First 14.0 Million	14,000	7.00	980
Next 56.0 Million	20,000	9.50	1,900
Savings Deposits	15,000	3.00	450
Other Time Deposits			
30 to 179 Day Maturity			
First 35 Million	30,000	3.00	900
180 Days & Less than 4 Years Maturity	10,000	2.50	† 300
4 Years & Over Maturity	9,000	1.00	* 270
Total Cumulative Reserves Required			4,800
Less: Vault Cash for Period Ended 04/06/77		1,800	
Plus: Deficient Carryover From. Previous Period		50	
Cumulative Reserve Balances to be Maintained with Federal Reserve			3,050

	Minimum	Midpoint	Maximum
Range of Cumulative Reserves to be Maintained to Realize Full Advantage of Carryover Provision	3,050	3,098	3,146
Daily Averages	436	443	449

†Reserves on maturities of 180 days to 4 years have been increased to bring reserves on total savings and time deposits to a minimum of 3 percent.

*Reserves on maturities of 4 years and over have been increased to bring reserves on total savings and time deposits to a minimum of 3 percent.

sends each member bank a report on its reserve position during the maintenance period. This report lists the actual reserves maintained for the settlement week, indicates whether the bank had a reserve excess or deficiency, and states the allowable carry-over to the next

reserve period.[8] If the bank had a carry-over deficiency, the form notes that the record is preliminary. A final record of the bank's reserve position would then be furnished at the completion of the following settlement period when the Federal Reserve could determine the portion of the carry-forward deficiency subsequently offset. If the carry-over were not wholly offset in the fourth week or if the amount of the deficiency in the third week exceeded the carry-forward allowance, the final report would also show the penalty on the deficiency and its disposition.[9] Examples of the preliminary and final reports used in the Tenth District are shown and described in the Appendix.

EXAMPLE

The "Advice of Reserves to be Carried" in Table 2 shows the calculations necessary to compute "total cumulative reserves required." The table begins with the cumulative totals of deposits held by the bank each day during the reserve assessment week. All dollar amounts are listed in thousands. It then shows that the bank has a reserve requirement of $4,800, that it maintained vault cash during the reserve assessment week of $1,800, and that it had a reserve deficiency in the previous settlement week of $50. Therefore, the reserve balance the bank should maintain on deposit at the Federal Reserve to meet current requirements and to offset the deficiency is $3,050 (=$4,800 — $1,800 + $50). However, if the bank held additional reserves it could establish a carry-over excess to the following week. The maximum allowable carry-over would be 2 per cent of total reserves required, or $96 (=2% of $4,800). Thus, the maximum reserves the bank should consider maintaining on deposit at the Federal Reserve would be $3,146 (=$3,050 + $96). Similarly, the minimum would be $3,050.

8 In computing the reserves maintained during a settlement week, allowance must also be made for "as of' adjustments. These adjustments are a means of correcting for errors which may have occurred on a bank's daily reserve statement. For example, if a bank requested a wire transfer and the Federal Reserve debited the account of the wrong bank, both banks would receive modifications to their reserve accounts, effective "as of' the date of the transfer. Similarly, if the Federal Reserve were unable to complete a wire transfer on the day requested, the banks involved might each receive an "as of' correction. "As of' adjustments occur relatively infrequently, particularly in the case of smaller banks, but they must be taken into consideration when they do develop.

9 The Federal Reserve Bank of Kansas City has established a set of guidelines to assist administrative officers in assessing or waiving penalties on reserve deficiencies. Present guidelines permit the granting of waivers in several situations.

1) A penalty may be waived if the amount is small. No specific limit has been established on the number of times a bank may have small penalties waived, but a waiver will not ordinarily be granted to banks with regular deficiencies.

2) A waiver may be granted if a bank has a net deficiency in its reserve account up to 5 per cent of total required reserves. This particular category is designed for banks with large deficiencies, but may be utilized by an individual bank only once every 2 years.

3) If a bank is leaving the Federal Reserve System, waivers may be granted during the final 2 weeks.

4) If a bank is placed in receivership or is in the process of being absorbed by another bank, waivers may be granted during this period.

5) If a bank is newly organized, switches from nonmember to member status, or merges with another bank, it is required to hold only a portion of normal reserve requirements during the next 2 years. Any penalties that would normally result from such reserve shortfalls are routinely waived.

Waivers granted under these five categories are semi-automatic and require no action on the part of the member bank. A final category has been established under which waivers could be granted if the penalty is attributable to errors. For example, a bank may be counting on a transfer of funds to its reserve account, but if the transfer is not made in time to be credited to reserves that day, a deficiency could arise. Such special waivers are considered only at the request of member banks.

It is important to recognize that these guidelines could be modified at any time and that the granting of any waiver is not totally automatic. All waivers are subject to the discretion of an administrative officer. Moreover, banks which regularly have reserve deficiencies could be subjected to Reserve Bank scrutiny or even legal action.

Finally, if penalties for deficiencies are assessed, the actual debit to a reserve account is made on the last business day of the month and includes the total of penalty charges for each settlement period ending during the month.

ESTABLISHING A TARGET RANGE FOR RESERVES

The "Advice of Reserves to be Carried" form indicates a target range for a bank's reserve balances at the Federal Reserve. The range is derived so as to make full allowance for any reserve carry-over from the previous period while limiting deviations to the amount eligible for carry-over to the following period. Although the Federal Reserve provides this information to a bank, it arrives relatively late in the settlement week. To avoid major last minute adjustments, therefore, many banks estimate their target ranges relatively early in the settlement week by using the daily statement provided by the Federal Reserve. The methods for determining the target range differ slightly, depending on whether the bank is currently operating with an excess or a deficit carry-over.

Carry-Over Deficiency: If a bank is presently operating with a carry-over deficiency from the previous week, the ***minimum*** quantity of reserves the bank should seek to maintain at the Federal Reserve is equal to the sum of the amount required for the current period plus the amount necessary to offset the reserve deficiency. Any smaller amount of reserves would mean that the bank had not offset its carry-over deficiency with an equal amount of excess reserves and would, therefore, subject the bank to a penalty. The ***maximum*** reserve balances the bank should consider holding would exceed the minimum by 2 per cent of total reserves required in the current week. Maintenance of reserves in excess of this amount, while permissible, would involve an opportunity cost since these "surplus" reserves earn no interest and would not be allowable as a carry-forward to the next reserve period.

Carry-Over Excess: If a bank is presently operating with an excess carry-over allowance from the previous week, the ***maximum*** amount of reserves the bank should seek to maintain with the Federal Reserve is equal to the amount that would allow full utilization of the carry-over excess. Any additional balances would mean that the bank was not fully utilizing its excess reserve carry-over from the previous period. The ***minimum*** quantity of reserves the bank should maintain at a Reserve Bank would be less than the maximum level by 2 per cent of total reserves required. Any lesser amount of reserves would mean that the bank had a deficiency in excess of the carry-over allowance.

EXAMPLE

Suppose a bank's total reserves required for the current period are $5,000,000, that its vault cash 2 weeks earlier was $500,000, and that it has a reserve carry-over deficiency from the previous week of $60,000. The minimum amount of reserves the bank could carry at the Federal Reserve without incurring a reserve deficiency would be $4,560,000 (=$5,000,000 — $500,000 + $60,000). A reserve balance of this amount would meet the requirement for the current period and would make up the deficiency of the previous week.

The bank would have a maximum carry-forward allowance to the next period of 2 per cent of $5,000,000 or $100,000. The upper limit to the target range, therefore, would be $4,660,000 (=$4,560,000 + $100,000). Any larger amount would mean that the bank had held more in excess reserves than could be carried forward to the next period.

EXAMPLE

Instead of a deficiency, assume the bank in the previous example has an excess carry-over of $60,000. All other figures remain the same. In that event, the upper limit to the target range would be $4,440,000 (=$5,000,000 — $500,000 — $60,000). The lower limit to the range would be $4,340,000 (=$4,440,000 — $100,000).

In developing the target range, one boundary will always be the balance a bank would need to maintain to offset any carry-over excess or deficiency from the previous period. On the "Advice of Reserves to be Carried" form shown in Table 2, this amount is labeled "Cumulative Reserve Balances to be Maintained with the Federal Reserve." It is equal to total reserves required, less vault cash from the reserve assessment period, plus (minus) the carry-over allowance for a reserve deficiency (excess) from the previous week. The other boundary will differ from this amount by 2 per cent of total reserves required, the maximum carry-forward allowance. Banks operating with an excess carry-over should aim to establish a carry-over deficiency, while those with a carry-over deficiency should seek a carry-over excess. This procedure requires that banks alternate weeks of carry-forward excesses and deficiencies. If a bank keeps its actual reserves within the target range, the bank will be able to count all its reserves toward meeting its requirements. In such cases, the bank is said to be operating with a "zero net reserve position." Those with a "non-zero net reserve position," in contrast, have not made full use of reserves. Banks in this situation, for example, may have had an excess or deficit carry-over in two consecutive weeks or may not have fully utilized an excess carry-over from a previous period.[10]

As a practical matter, a bank should probably aim at the midpoint of its target range since minor deviations in either direction would affect only the actual carry-over to the following week and would entail no costs. This target, however, must be examined with a view to the management philosophy of each bank. Some banks may view reserve deficiencies as being a much more serious problem than reserve excesses and would, accordingly, shade their target toward the upper end of the range. Alternatively, when money market rates are substantially above the penalty rate on deficiencies, some may reduce their target toward the lower boundary of the acceptable range, thus increasing the risk of a reserve deficiency.

ADHERING TO A TARGET RANGE

At any time numerous factors interact to cause increases or decreases in a bank's reserve balance at the Federal Reserve. Balances would tend to decline if the dollar amount of cash letters received from the Federal Reserve exceeded the credit becoming available on cash letters sent to the Federal Reserve, if payment from a bank's reserve account were made for purchases of securities, if Federal funds were sold, if currency or coin were shipped from a Reserve Bank, if drafts drawn on a reserve account were presented for collection, or if a Treasury tax and loan account were called. Similarly, balances would rise if securities held in safekeeping at Reserve Banks mature, if currency or coin is deposited, if Federal funds are borrowed or returned, or if the Federal Reserve credits banks with the interest received for securities held in safekeeping. Other factors could be cited, but these include some of the more significant ones causing reserve fluctuations. In reserve management, banks are shooting at a moving target.

Although maximum efficiency in reserve management requires that banks keep actual reserves within a target range, there are no inflexible guidelines that can be offered regarding the timing or method of making reserve adjustments to achieve this goal. If a sizable divergence from the target range develops at the beginning of a reserve period, a strong case could be made for taking corrective action promptly. The sale or purchase of

10 The accounting department at each office of the Federal Reserve Bank of Kansas City has developed a computer report which summarizes the reserve behavior of individual banks for each week during a 9-month period. Examination of the "net position" column of this report indicates the frequency with which a bank operates with a zero net reserve position. Copies of this report are most helpful in pinpointing banks which may require special assistance in managing reserves. The report, which is available to banks upon request, can also be of use in measuring the success of reserve management programs.

securities at this time would reduce the likelihood of having to make a very large, but temporary, adjustment near the end of the period. Moreover, fully corrective action later could be impossible. Banks, for example, are not permitted to overdraw their reserve accounts to eliminate an excess and in some states the amount of Federal funds which can be sold to individual purchasers is subject to lending limit restrictions. Similarly, many correspondents restrict the amount of Federal funds sold to respondents to a specified fraction of the respondent's capital accounts. Early action, though, may not eliminate the need for further adjustment in reserve balances later in the period.

If a bank expects its actual reserves to diverge from the target range by a relatively small amount, any adjustment should probably be postponed until the reserve period is drawing to a close. Unforeseen credits or debits to a reserve account could always develop. Also, as the size of a comparatively small excess or deficiency grows, so does the maneuverability of the bank. Many midwestern and Rocky Mountain correspondents, for example, will buy Federal funds in multiples of $25,000, but stipulate a minimum purchase of $50,000. A bank with daily average excess reserves of $40,000 would have difficulty finding a purchaser for that amount, but would normally have no problems disposing of $300,000 for 1 day, $150,000 for 2 days, or even $100,000 for 3 days.

The frequency and size of changes in a bank's reserve account will also influence the optimal timing of adjustments. Many smaller banks maintain semi-dormant accounts at the Reserve Bank. These banks generally send outgoing cash letters to correspondents and have the reserve account of a correspondent debited for incoming cash letters. Cash letter activity, therefore, does not affect their reserve balances. The major factors causing reserve balance changes are such transactions as currency and coin ordered or deposited, calls on Treasury tax and loan accounts, payments for savings bonds sold or redeemed, and Federal funds sold or returned. In many instances the magnitude and timing of these transactions will be known several days in advance and could be manipulated within limits to influence a reserve balance. For banks with relatively inactive reserve accounts, it is generally recommended that an analysis of the week's reserve position be prepared on Monday. At that time, firm figures for 4 days will be available. Controllable transactions affecting the bank's reserve position will largely be known, making an estimate of the closing reserve balance on Monday, Tuesday, and Wednesday relatively precise. If the projected reserves do not fall within the previously established target range, the bank would then have 3 days to make any adjustment.[11]

Banks with greater activity in their reserve accounts have a more formidable task in projecting balances. These banks generally are the ones which send cash letters to the Federal Reserve for collection. In addition to the factors already listed, they would have to make allowance in reserve projections for the net effect of any wire transfers, charges for incoming cash letters, for deferred availability of credit on cash letters deposited, and for numerous miscellaneous transactions. As early as Friday, banks in such situations should begin to examine their reserve position and perhaps initiate corrective action. The analysis should then be reviewed frequently, with adjusting action being taken daily throughout the remainder of the settlement week.

[11] If a bank has its own reserve account debited for incoming cash letters, one weekly adjustment may not be adequate to ensure that a bank operates with a zero net teserve position. Since the dollar amount of incoming cash letters is highly variable and is largely unpredictable, unanticipated changes in reserve balances can often be substantial. Banks in this situation must be prepared to take further correcting action later in the settlement week, or alternatively should make arrangements to have the reserve account of a correspondent charged for incoming cash letters.

The types of adjustments banks should consider in bringing their reserve balances within the target range would depend mainly on the magnitude of the deviation, its likely duration, the relative yields available on alternative types of investments, and on the cost of different sources of funds. As before, no firm guidelines can be offered. Banks anticipating a prolonged buildup of excess reserves may wish to acquire longer term investments, but if short-term interest rates are unusually high, sales of Federal funds could prove more profitable. Large banks have many alternatives, but smaller banks projecting a temporary excess or deficiency should consider such possibilities as the purchase or sale of Federal funds, transfers to or from correspondent accounts, the purchase or sale of securities either outright or under repurchase agreements, and the initiation or repaying of borrowing at the discount window.

The willingness and ability of banks to make reserve adjustments to achieve their target range is also likely to vary. If the transaction costs of making an adjustment are large compared to the interest that could be earned on surplus balances or to the size of a penalty on a deficiency, the incentive to make the adjustment will be less. Banks are likely to correct large deviations from the target, but might consider small divergences unimportant. The desire to alter reserves could be higher if a divergence is viewed as permanent rather than temporary or self-reversing. The ability of a bank to alter its reserve position is also an important consideration. Banks which do not have ready access to the Federal funds market, which have a relatively illiquid portfolio, which are reluctant to reduce correspondent balances, or which are unwilling to borrow at the discount window are less likely to be concerned about maximum reserve utilization. On the other hand, the possibility of Reserve Bank surveillance can be a powerful stimulus in preventing reserve deficiencies. Reserve managers should always consider all possibilities. Nevertheless, those banks which rarely operate with a zero net reserve position or which experience occasional large deviations from the target range could probably improve reserve management techniques and increase profits.

CONCLUDING REMARKS

Efficient reserve management involves obtaining full utilization of all reserves. The procedures outlined in this article should be effective and quick for most smaller banks. Larger banks will need to devote additional time and attention to reserve management. Obtaining effective use of all reserves, however, is but one aspect of the broader issue of optimum cash management. Optimum cash management involves holding the minimum in nonearning assets, given the liquidity and reserve needs of a bank in an uncertain world. A bank interested in maximizing profits must examine all operating and portfolio procedures. Effective reserve management is but a beginning.

APPENDIX

INTERPRETING THE REPORTS ON A BANK'S RESERVE POSITION

At the conclusion of a reserve week, the Federal Reserve sends each member bank a report on the reserves actually maintained during the settlement week. If the bank's reserves were deficient, the form notes that the record is preliminary. A final summation of the bank's position would then be furnished at the completion of the following settlement period when the Federal Reserve can determine the portion of any carry-forward deficiency subsequently offset. The format of these reports varies among Federal Reserve districts, and the samples provided in this appendix are for the Tenth Federal Reserve District.

The example in this appendix corresponds to the bank portrayed in Table 2 and assumes the bank has two consecutive weeks of reserve

Table 3

FEDERAL RESERVE BANK OF KANSAS CITY
PRELIMINARY RECORD OF RESERVE POSITION
FOR PERIOD ENDING 04/20/77
AC66 Rev 1/77 **(Amounts in Thousands)**

Bank Number			
Bank Name			
City			
State Zip			
Cumulative Reserves Required			4,800
Cumulative Reserves Maintained			
Vault Cash	1,800		
Reserve Balances	2,900		
Net "As Of" Adjustments	0		
Subtotal		4,700	
Minus: Deficient Carryover from Previous Period		50	
Total			4,650
Preliminary Reserve Position Deficiency			150
Allowable Deficiency Carryover to Next Period			96
Deficient Reserves Not Allowable for Carryover			4

deficiencies. This bank, it will be recalled, had total reserves required of $4,800, held vault cash during the reserve assessment week of $1,800, and had a carry-over deficiency of $50, making for a minimum required reserve balance at the Federal Reserve of $3,050 in order to offset the carry-over reserve deficiency.

The "Preliminary Record" in Table 3 indicates that the bank actually held balances of $2,900 at the Federal Reserve during the settlement week. After allowance for the $50 reserve deficiency of the previous week, therefore, the reserves available to meet the current week's requirement of $4,800 were $4,650 (=$2,900 + $1,800 — $50). Thus the bank also experienced a reserve deficiency in the second week, with the amount of the shortfall being equal to $150 (=$4,800 — $4,650). If the bank had carried $150 more in reserve balances, the requirement for the current week would have been met and the carry-over from the previous week offset.

Of the $150 deficiency, $50 is attributable to the carry-over from the previous week. Since reserve excesses or deficiencies can be carried forward only one week, this amount is not eligible to be carried forward for another week. In computing the bank's "final" reserve position for the previous week, a penalty would be assessed for the $50 deficiency which was not offset. Given that the interest penalty will be charged, the bank's net reserve deficiency in the current week in effect becomes $100. However, with total reserves required of $4,800, the bank is eligible only to carry over a deficit of $96, leaving $4 of the reserve deficit which cannot be carried forward. Regardless of the excess reserves carried in the next period, this

Table 4

FEDERAL RESERVE BANK OF KANSAS CITY
FINAL RECORD OF RESERVE POSITION
FOR PERIOD ENDING 04/20/77
(Amounts in Thousands, Except Penalty Amounts)

Bank Number

Bank Name
City
State Zip

Cumulative Reserves Required				4,800
Cumulative Reserves Maintained				
Vault Cash	1,800			
Reserve Balances	2,900			
Net "As Of" Adjustments	0			
		Subtotal	4,700	
Plus: Excess Carryover From Previous Period			0	
		Total		4,700
Preliminary Reserve Position		Deficiency		100
Allowable Carryover 96		Offset by Excess Reserves		96
Final Reserve Position		Deficiency		4
Penalty on Net Deficiency				$0.79

Disposition of Penalty

	Waived	$0.79

AC76 Rev 1/77

$4 shortfall will also be subject to a penalty. The final line of Table 3, therefore, is based on the assumption that the **$96** carry-over deficiency will be fully offset in the following week and does not include the previous week's shortfall in reserves.

The final report which is provided 1 week later is shown in Table **4** and relates to the computation of any penalty on a reserve deficiency. Many of the figures are the same as in Table 3. Since the charge for the $50 deficiency would have already been established, the table indicates a zero carry-over from the earlier week. In addition, the table shows that the bank completely offset its **$96** carry-over reserve deficiency with holdings of excess reserves. Therefore, the bank would be subject to an interest penalty only on the **$4** deficiency which was ineligible for carry-over. The interest penalty is computed on this shortfall.